

Module 2

Trends and Future Projections for Flood Hazards in Delaware



A Tale of Two Junes

June 2012 – 5.4 inches



UD Cooperative Extension

Drought damaged soybean crop, Kent County,
2012

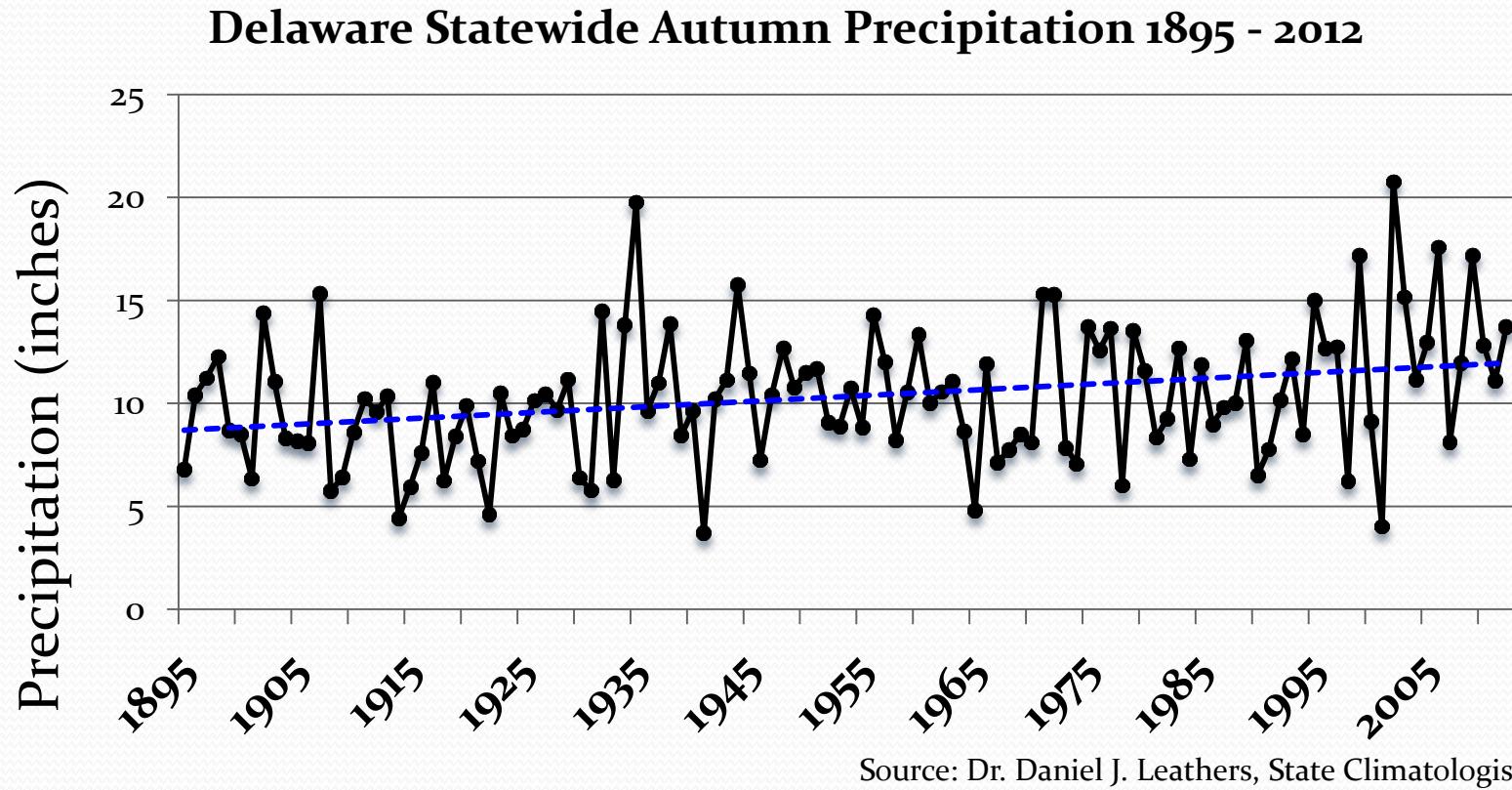
June 2013 – 16.47 inches



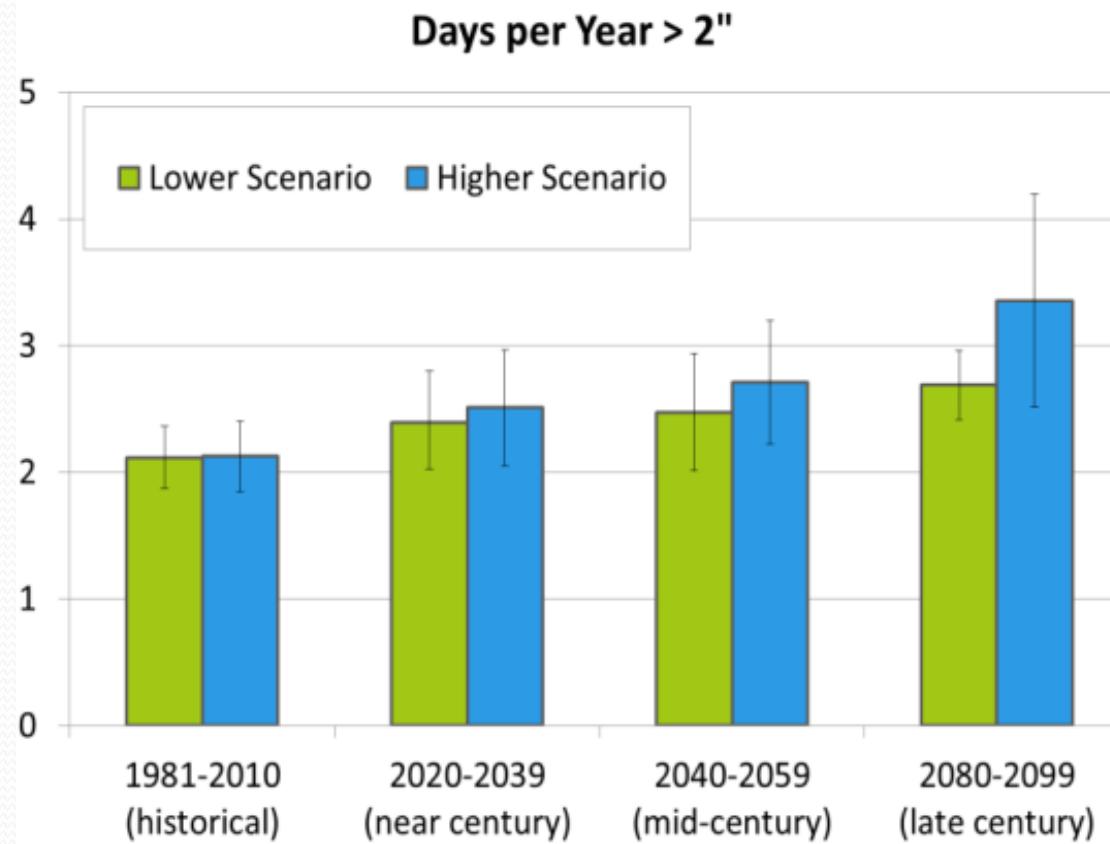
Abclocal.com

Main Street Newark , June 28, 2013

Rainfall in DE is variable with slight upward trend in Autumn



The frequency & severity of heavy precipitation events are projected to increase



Source: Hayhoe et al., 2013



Heavy precipitation events can:

- Exceed local stormwater infrastructure capacity
- Cause streams to jump their banks
 - leading to impacts like road closures, property damage, crop damage

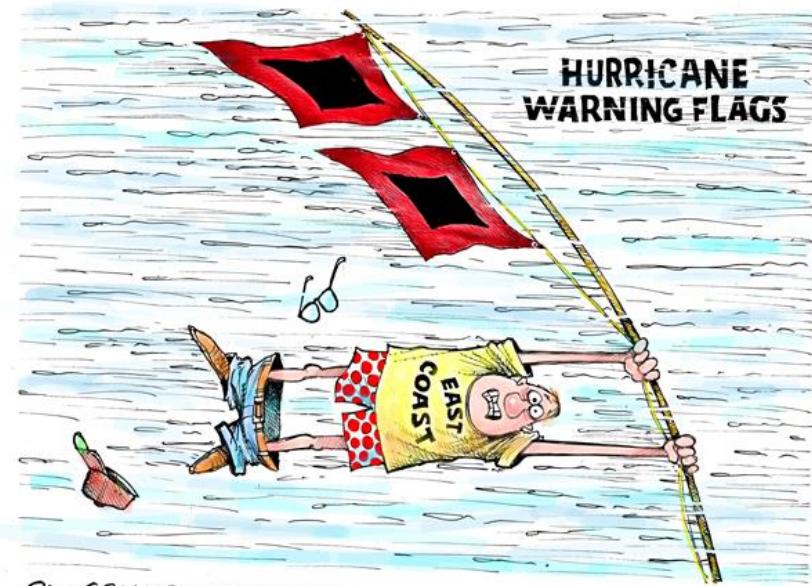
But wait, there's more!



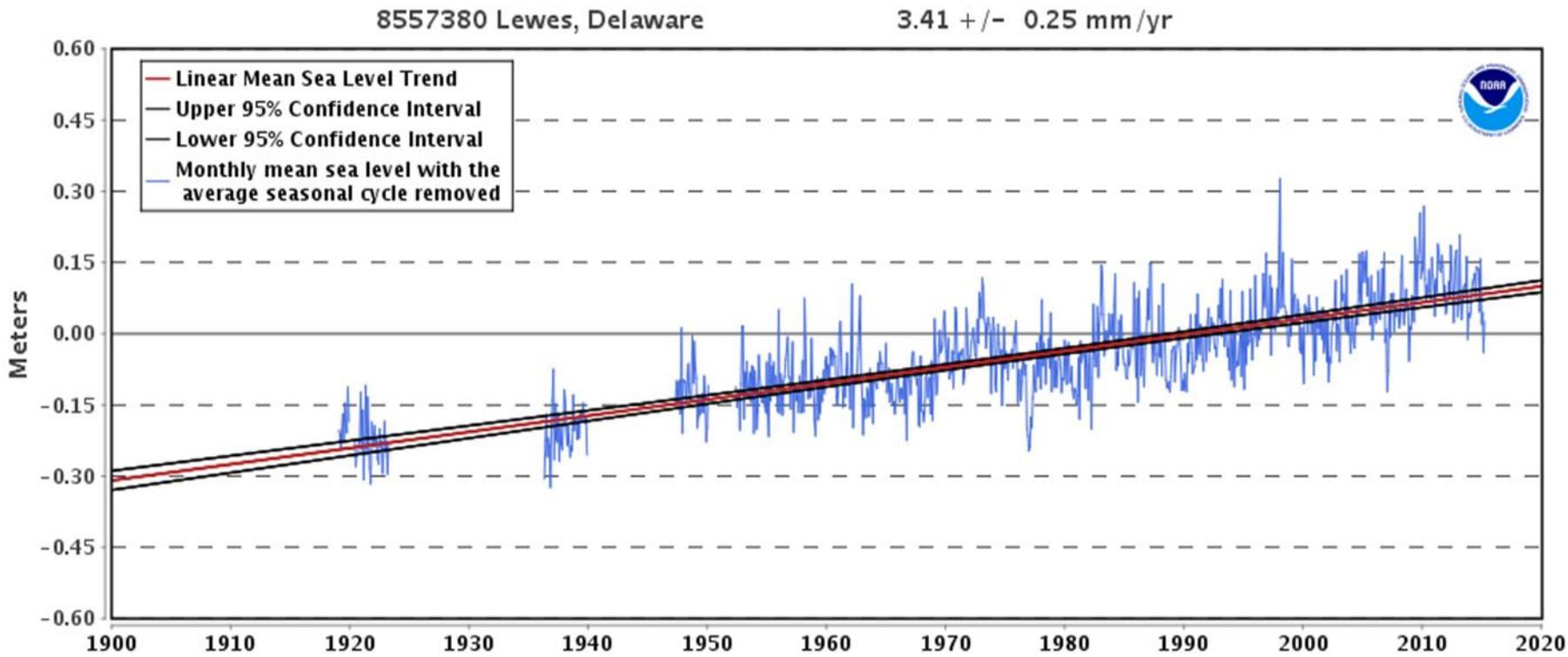
Delaware is vulnerable to different causes of flooding:

- Coastal storms (examples: nor'easters, hurricanes)
- Heavy precipitation events
- Extreme tides
- Land use practices
- Sea Level Rise

Sea level rise can cause localized, nuisance flooding and exacerbate impacts from other flooding events



Local sea levels are rising at twice the global average



Global rate = 1.7 mm/yr
Lewes, DE rate = 3.41 mm/yr

Sea Level Rise may affect all parts of DE



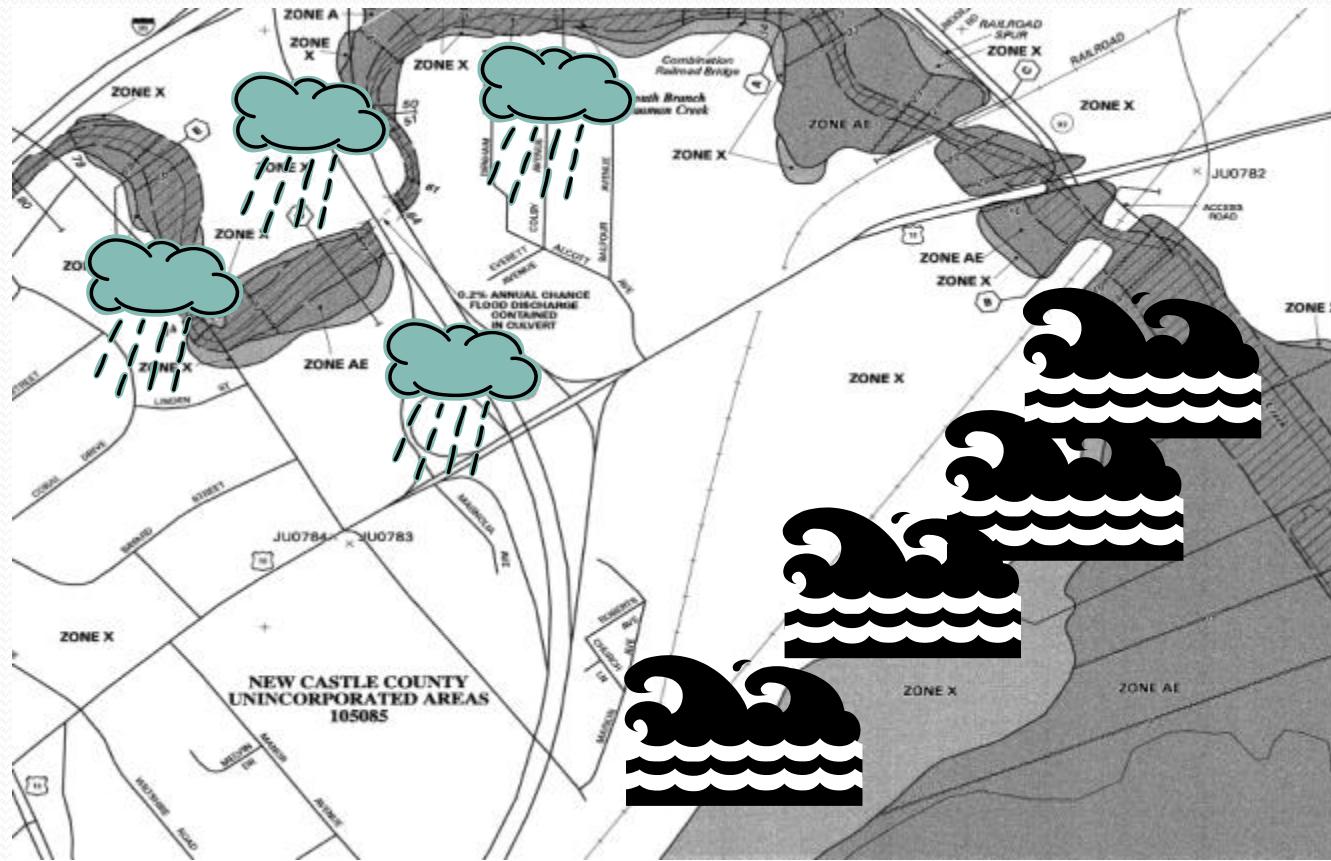
Bethany Beach and Surrounding Areas with 0.5, 1.0 and 1.5 meters of SLR to 2100



South Wilmington and Surrounding Areas with 0.5, 1.0 and 1.5 meters of SLR to 2100

Flood preparedness requires a comprehensive, forward thinking approach

Increased
Rainfall



Sea
Level
Rise



Questions?